

FS-1-46-7-(3)

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

RS-INT  
REGENERATION  
Working Plans ✓  
(Types of Container Test - 1958)

RS-INT  
REGENERATION  
Planting

WORK PLAN

Types of Container Test - 1958

By

James D. Curtis



Intermountain Forest & Range Experiment Station

January 3, 1958

cc: Boise R.C.

## WORK PLAN

### Types of Container Test - 1958

Object: (a) To test for survival the suitability of different types of containers for outplanting ponderosa pine seedlings on severe sites.

(b) To measure the form and growth of trees grown in different types of containers.

Location: The Headquarters site of the Boise Basin Experimental Forest. The tract is located in the upper middle part of the field flanking the fenced Administrative area on the east.

Site: The site is an old field once used for pasture but long since reverted to forbs and grass. The soil is granitic with some clay and stones. Preparation of the site by plowing, discing and harrowing, to eliminate the competition will be necessary prior to planting.

Stock: The stock to be planted will consist of 1-0 seedlings in 16 different kinds of containers grown from seed collected on the Boise National Forest.

Planting method: Containers with the seedlings in them will be planted in holes made by a powered soil auger, with particular care being taken to tamp soil from the hole around each container to eliminate air pockets which the seedling roots would be unable to bridge. The final position of each seedling should be determined by the level of the soil in the container in relation to the ground surface and not the level of the top of the container itself.

Season of planting: Planting will be done early in May 1958.

Survival check: A count of survival will be made in the fall of 1958 and at the same time the 4 following years to check survival. Measurements of form and growth can be made at later times considered suitable.

Protection: Because the area is subject to human, sheep, and horse trespass, it will be necessary to fence it with four stands of barbed wire prior to planting.

Kinds of containers to be tested: The following 16 types<sup>1/</sup> of containers will be tested:

<u>Length</u>	<u>Color or material</u>	<u>Size</u>
10	Brown	1-1/8"
10	Black	1-1/8"
12	Brown	1-1/8"
12	Black	1-1/8"
18	Brown	1-1/8"
18	Black	1-1/8"
10	Brown	1-3/8"
10	Black	1-3/8"
12	Brown	1-3/8"
12	Black	1-3/8"
18	Brown	1-3/8"
18	Black	1-3/8"
12	Map tubes	1-1/2"
16	Map tubes	2"
12	Tar paper	1-1/2 x 1-1/2"

Experimental design: The layout of the test will consist of three blocks, each block consisting of 16 randomized rows of 5 similar containers. Until the spring of 1958 it won't be known if more than 15 of each kind will be available but to avoid using percentages in the analysis, the same number of containers of each kind should be used.

---

<sup>1/</sup> Includes two weights of paper of 1-1/2 x 1-1/2 x 12" tar paper.



This number can be increased above 15 without disrupting the general scheme of the test. Spacing will be 6 x 6 feet so that if 15 seedlings are used the plot dimensions will be 108 x 96 feet.

The test can be analyzed by analysis of variance as follows:

<u>Source of variation</u>	<u>D. F.</u>	<u>Sums of squares</u>
Blocks	2	
Types	15	
Type x Block (Error)	31	
<hr/>		
Total	47	

The 15 degrees of freedom for types can be broken down several ways to test differences in container lengths, materials, and diameters.

JAMES D. CURTIS  
January 3, 1958